

## Approval Chart for Curriculum Changes

A = Approve      I = Information Item<sup>1</sup>      R = Advise & Respond<sup>2</sup>

Course Number ENGR 272 or Degree Plan(s) \_\_\_\_\_  
 State the requested change and reason. A memo may be attached if more space is necessary.

See Attached

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

| Change to a Course |                                                                                                                   | Dept./School | College Academic | Deans | COUNCIL <sup>3</sup> |      |      |      | Provost | President |
|--------------------|-------------------------------------------------------------------------------------------------------------------|--------------|------------------|-------|----------------------|------|------|------|---------|-----------|
|                    |                                                                                                                   |              |                  |       | TEC                  | UGEC | UUAC | GRAD |         |           |
| 1.                 | Title (description unchanged)                                                                                     | A            | A                | A     |                      | I    |      |      | I       | I         |
| 2.                 | Description (not affecting content)                                                                               | A            | A                | A     |                      | I    |      |      | I       | I         |
| 3.                 | Course term(s)                                                                                                    | A            | I                | A     |                      | I    |      |      | I       | I         |
| 4.                 | Content (substantive change)                                                                                      | A            | A                | A     |                      | I    |      |      | A       | A         |
| 5.                 | Number of hours (lecture, lab, contact)                                                                           | A            | A                | A     |                      | A    |      |      | A       | A         |
| 6.                 | Course number within the hundred                                                                                  | A            | A                | I     |                      | I    |      |      | I       | I         |
| 7.                 | Course number beyond the hundred                                                                                  | A            | A                | A     |                      | A    |      |      | A       | A         |
| 8.                 | Prerequisites                                                                                                     | A            | A                | A     |                      | I    |      |      | I       | I         |
| 9.                 | Course fee(s)                                                                                                     | A            | --               | A     |                      | --   |      |      | A       | I         |
| 10.                | From U to G or G to U                                                                                             | A            | A                | A     |                      | A    |      |      | A       | A         |
| 11.                | Cross list with another department: U or G level                                                                  | A            | A                | A     |                      | A    |      |      | A       | A         |
| 12.                | Department of record                                                                                              | A            | A                | A     |                      | A    |      |      | A       | A         |
| 13.                | Open or close a course                                                                                            | A            | A                | A     |                      | A    |      |      | A       | A         |
| 14.                | New course — See website for application and process.<br>This change includes combining or splitting a course(s). | A            | A                | A     |                      | A    |      |      | A       | A         |

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

## Approval Chart for Curriculum Changes

A = Approve      I= Information Item<sup>1</sup>      R= Advise & Respond<sup>2</sup>

|     |                                                                                                             |              |                  |       | COUNCIL <sup>3</sup> |      |      |      |         |         |           |                   |
|-----|-------------------------------------------------------------------------------------------------------------|--------------|------------------|-------|----------------------|------|------|------|---------|---------|-----------|-------------------|
|     | Change to a Degree Plan                                                                                     | Dept./School | College Academic | Deans | TEC                  | UGEC | UUAC | GRAD | Provost | Faculty | President | Board of Trustees |
| 1.  | University Requirements — Change in approved course content <sup>6</sup>                                    | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |
| 2.  | University Requirements — Add or drop a required course from the University Requirements chart <sup>6</sup> | A            | A                | A     | A                    |      |      |      | A       | A       | A         | --                |
| 3.  | University Requirements — Add or drop a course from a menu within the University Requirements <sup>6</sup>  | A            | --               | --    | A                    |      |      |      | A       | --      | A         | --                |
| 4.  | University Requirements — Change hours within a menu on the University Requirements chart <sup>6</sup>      | A            | A                | A     | A                    |      |      |      | A       | A       | A         | --                |
|     |                                                                                                             |              |                  |       |                      |      |      |      |         |         |           |                   |
| 5.  | Major — Revision of major <sup>4,5</sup>                                                                    | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |
| 6.  | Major — Adopt or change admission requirements                                                              | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |
| 7.  | Major — Add <sup>4,5</sup>                                                                                  | A            | A                | A     | A                    |      |      |      | A       | A       | A         | I                 |
| 8.  | Major – Discontinue (proposed by the department or college)                                                 | A            | A                | A     | A                    |      |      |      | A       | A       | A         | I                 |
| 9.  | Major – Discontinue (proposed by the Provost)                                                               | See below.   |                  |       |                      |      |      |      |         |         |           |                   |
|     |                                                                                                             |              |                  |       |                      |      |      |      |         |         |           |                   |
| 10. | GPA — Revise major or cumulative requirement                                                                | A            | A                | A     | A                    |      |      |      | A       | A       | A         | --                |
|     |                                                                                                             |              |                  |       |                      |      |      |      |         |         |           |                   |
| 11. | Minor — Revise course selection                                                                             | A            | A                | A     | I                    |      |      |      | I       | --      | I         | --                |
| 12. | Minor — Add                                                                                                 | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |
| 13. | Minor – Discontinue (proposed by the department or college)                                                 | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |
| 14. | Minor – Discontinue (proposed by the Provost)                                                               | See below.   |                  |       |                      |      |      |      |         |         |           |                   |
|     |                                                                                                             |              |                  |       |                      |      |      |      |         |         |           |                   |
| 15. | Degree — Add                                                                                                | A            | A                | A     | A                    |      |      |      | A       | A       | A         | I                 |
| 16. | Degree – Discontinue (proposed by the department or college)                                                | A            | A                | A     | A                    |      |      |      | A       | A       | A         | I                 |
| 17. | Degree – Discontinue (proposed by the Provost)                                                              | See below.   |                  |       |                      |      |      |      |         |         |           |                   |
| 18. | Any change to a graduate degree program                                                                     | A            | A                | A     | A                    |      |      |      | A       | --      | A         | --                |

|                         |                                                                | COUNCIL <sup>3</sup> |            |      |     |      |          | Faculty | President | Board of Trustees |
|-------------------------|----------------------------------------------------------------|----------------------|------------|------|-----|------|----------|---------|-----------|-------------------|
|                         |                                                                | Provost              | Department | Dean | TEC | UUAC | Graduate |         |           |                   |
| Provost-Proposed Change |                                                                |                      |            |      |     |      |          |         |           |                   |
| 1.                      | Major/Graduate Program — Discontinue (proposed by the Provost) | A                    | R          | R    |     | A    |          | A       | A         | I                 |
| 2.                      | Minor — Discontinue (proposed by the Provost)                  | A                    | R          | R    |     | A    |          | --      | A         | --                |
| 3.                      | Degree — Discontinue (proposed by the Provost)                 | A                    | R          | R    |     | A    |          | A       | A         | I                 |

## Approval Chart for Curriculum Changes

A = Approve      I= Information Item<sup>1</sup>      R= Advise & Respond<sup>2</sup>

| COUNCIL <sup>3</sup> |                                                                                                                              |              |                  |       |      |      |      |         |           |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|-------|------|------|------|---------|-----------|
|                      | Change to the Catalog Information                                                                                            | Dept./School | College Academic | Deans | UGEC | UUAC | GRAD | Provost | President |
| 1.                   | General requirements for graduation including course requirements that are common to all majors for all degrees <sup>7</sup> | --           | --               | --    |      | A    |      | A       | A         |
| 2.                   | Admission requirements                                                                                                       | --           | --               | --    |      | A    |      | A       | A         |
| 3.                   | Policies governing academic probation and suspension                                                                         | --           | --               | --    |      | A    |      | A       | A         |
| 4.                   | Requirements for graduating with honors                                                                                      | --           | --               | --    |      | A    |      | A       | A         |
|                      |                                                                                                                              |              |                  |       |      |      |      |         |           |
| 5.                   | Other academic policy changes                                                                                                | --           | --               | --    |      | A    |      | A       | A         |

<sup>1</sup> Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

<sup>2</sup> The Dean and Department should respond to the Provost's recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

<sup>3</sup> All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

<sup>4</sup> A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

<sup>5</sup> Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

<sup>6</sup> Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

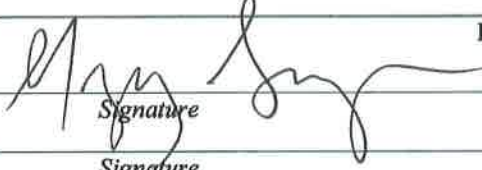
<sup>7</sup> The UUAC approved the clarification that "general requirements for graduation" means the enumerated items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 3-8-17

## Curriculum/Catalog Changes Signature Page

|                                                                                                       |                                  |
|-------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Department/School Chair(s)</b>                                                                     |                                  |
| <br><i>Signature</i> | 10/27/18<br><i>Approval date</i> |
| <i>Signature</i>                                                                                      | <i>Approval date</i>             |

|                                                                                                       |                                    |
|-------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>College Academic Council(s)</b>                                                                    |                                    |
| <br><i>Signature</i> | 11-20-2018<br><i>Approval date</i> |
| <i>Signature</i>                                                                                      | <i>Approval date</i>               |

|                                                                                                       |                                  |
|-------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Dean(s)</b>                                                                                        |                                  |
| <br><i>Signature</i> | 11/27/18<br><i>Approval date</i> |
| <i>Signature</i>                                                                                      | <i>Approval date</i>             |

|                                  |                      |
|----------------------------------|----------------------|
| <b>Teacher Education Council</b> |                      |
| <i>Chair's signature</i>         | <i>Approval date</i> |

|                                  |                      |
|----------------------------------|----------------------|
| <b>General Education Council</b> |                      |
| <i>Chair's signature</i>         | <i>Approval date</i> |

|                                       |                      |
|---------------------------------------|----------------------|
| <b>Undergraduate Academic Council</b> |                      |
| <i>Chair's signature</i>              | <i>Approval date</i> |

|                          |                      |
|--------------------------|----------------------|
| <b>Graduate Council</b>  |                      |
| <i>Chair's signature</i> | <i>Approval date</i> |

|                  |                      |
|------------------|----------------------|
| <b>Provost</b>   |                      |
| <i>Signature</i> | <i>Approval date</i> |

|                                |                      |
|--------------------------------|----------------------|
| <b>Faculty</b>                 |                      |
| <i>Chair of faculty senate</i> | <i>Approval date</i> |

|                  |                      |
|------------------|----------------------|
| <b>President</b> |                      |
| <i>Signature</i> | <i>Approval date</i> |

**Application for a New Course v10.6**

|                                            |          |
|--------------------------------------------|----------|
| <b>Course ID</b> <i>Subject and Number</i> | ENGR 272 |
| <b>Date APPROVED</b>                       |          |
| <b>Date DENIED</b>                         |          |

**I. Systems and Catalog Information** Complete each item.

|     |                                                                                           |                                                                                                                                                                                                                                                                                                                                                              |
|-----|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Course Developer                                                                          | Timothy Kennedy                                                                                                                                                                                                                                                                                                                                              |
| 2   | Course Teacher                                                                            | A member of the engineering faculty or an adjunct                                                                                                                                                                                                                                                                                                            |
| 3   | Course Title                                                                              | Surveying & Geomatics                                                                                                                                                                                                                                                                                                                                        |
| 4   | Course Abbreviation (if title is over 30 characters)                                      |                                                                                                                                                                                                                                                                                                                                                              |
| 5   | College                                                                                   | CAS                                                                                                                                                                                                                                                                                                                                                          |
| 6   | Department                                                                                | Engineering and Physics                                                                                                                                                                                                                                                                                                                                      |
| 7   | Number of Credit Hours                                                                    | 3                                                                                                                                                                                                                                                                                                                                                            |
| 8a. | Number of contact hours - lecture                                                         | 2                                                                                                                                                                                                                                                                                                                                                            |
| 8b. | Number of contact hours – lab/activity                                                    | 3                                                                                                                                                                                                                                                                                                                                                            |
| 9   | Is the course for a fixed or variable number of credit hours?                             | Fixed                                                                                                                                                                                                                                                                                                                                                        |
| 10  | Explanation for variable credit                                                           | n/a                                                                                                                                                                                                                                                                                                                                                          |
| 11  | Is the course repeatable for additional credit?                                           | No                                                                                                                                                                                                                                                                                                                                                           |
| 12  | Maximum total number of credit hours a student can earn for this course                   | 3                                                                                                                                                                                                                                                                                                                                                            |
| 13  | What type of course is this?<br>(Select one. Please see Schedule Type definitions above.) | <input type="checkbox"/> Traditional lecture<br><input type="checkbox"/> Traditional lab<br><input checked="" type="checkbox"/> Traditional lecture/lab<br><input type="checkbox"/> Experiential Learning<br><input type="checkbox"/> Seminar<br><input type="checkbox"/> Studio<br><input type="checkbox"/> Thesis<br><input type="checkbox"/> Dissertation |

|     |                                                                                                                                                                                                 |                                                                                                                                                                                                                            |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                                                                                                 | <input type="checkbox"/> Thesis<br><input type="checkbox"/> Dissertation                                                                                                                                                   |
| 14  | Instructor Workload                                                                                                                                                                             | 5                                                                                                                                                                                                                          |
| 15  | Grade Mode (check all appropriate):                                                                                                                                                             | <input checked="" type="checkbox"/> Standard<br><input type="checkbox"/> Credit/No Credit (undergrad only)                                                                                                                 |
| 16  | Maximum Enrollment                                                                                                                                                                              | 20                                                                                                                                                                                                                         |
| 17  | <b>Catalog Description</b><br>(50 words or less)                                                                                                                                                | Introduction to the use of modern surveying equipment, map projections, horizontal and vertical curves, earthwork and mapping for capturing data, data processing and presentation of field data.                          |
| 18  | List any prerequisites (course/s, test scores, class standing, major, etc.)                                                                                                                     | MATH 185                                                                                                                                                                                                                   |
| 19  | List any co-requisites                                                                                                                                                                          | None                                                                                                                                                                                                                       |
| 20  | If the course is cross listed, specify the Course ID(s); MUST have signature in Section V from all Department Chairs                                                                            | None                                                                                                                                                                                                                       |
| 21  | Does this course have any special student costs?                                                                                                                                                | <input type="checkbox"/> No<br><input checked="" type="checkbox"/> Yes (Student Lab Fee per CAS Policy)<br>(If yes, must attach a <u>completed</u> "Request to Add or Change Course Fees" form. Describe in section IV-F.) |
| 22a | How frequently will the course be offered in the <b>Fall</b> ?<br>All, even or odd years?                                                                                                       | Yes, odd years                                                                                                                                                                                                             |
| 22b | How frequently will the course be offered in the <b>Spring</b> ?<br>All, even or odd years?                                                                                                     | none                                                                                                                                                                                                                       |
| 22c | How frequently will the course be offered in the <b>Summer</b> ?<br>All, even or odd years?                                                                                                     | none                                                                                                                                                                                                                       |
| 23  | First semester this course will be offered<br><i>New courses may not be taught under their approved course ID until they appear in the catalog, therefore, no earlier than the coming fall.</i> | Fall 2019                                                                                                                                                                                                                  |
| 24  | List course/s that should be deleted, (Also, include the last semester for                                                                                                                      | none                                                                                                                                                                                                                       |

|    |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <i>department.</i>                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 25 | Is this course required for a degree/s?<br><i>If "Yes," attach a revised degree plan(s) reflecting the placement of the new course.</i>                                                                                     | <input type="checkbox"/> No<br><input checked="" type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                              |
| 26 | Should the addition of this course be retroactively applied to the degree plan it supports?                                                                                                                                 | <input checked="" type="checkbox"/> No<br><input type="checkbox"/> Yes<br>Explanation: It can serve as an elective for any student as it is above ENGR 200.                                                                                                                                                                                                                                                         |
| 27 | Has this course been offered as a Special Topics course?                                                                                                                                                                    | <input checked="" type="checkbox"/> No<br><input type="checkbox"/> Yes<br><i>If "Yes," specify the Course ID and enrollment for each term it was taught.<br/>(Note: New courses are NOT required to be taught as Special Topics courses prior to being approved. However, a course may be taught once as Special Topics before it is proposed. See the Course Descriptions section of the Catalog for details.)</i> |
| 28 | List any courses in which the content overlaps the proposed course.<br>(Course ID and Name)<br><i>Attach a statement from the instructor/dept chair of the existing course justifying the new offering in Section IV-D.</i> | None                                                                                                                                                                                                                                                                                                                                                                                                                |

## II. Curriculum

|   |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                    |
|---|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Degree Plan</b><br><br>Explanation of how this course affects degree requirements.                                     | This course supports the Civil Engineering Track of the BSE degree as a discipline specific elective.                                                                                                                                                                                                                                                              |
| 2 | <b>Justification</b><br><br>State the justification for adding this course to the current curriculum. Represent the need. | Based upon recent (Fall '17 and Spring '18) feedback from the ACU Engineering Industrial Advisory Board, ACU admissions, recent ('17 and '18) senior exit surveys, and the American Society of Engineering Educators, additional depth in engineering disciplines is needed within our degree plan to increase competitiveness of ACU graduates in the job market. |

07/01/2016

|  |  |                                                                                                                                                                        |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Surveying and Geomatics is a standard offering in a Civil Engineering curriculum as it is needed for any construction project students will work on while in industry. |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### III. Course Design

#### 1. Audience and Course Goal

|   |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Describe the intended audience, including prerequisite skills. | Engineering students with an interest in Civil Engineering or any student with an interest in surveying                                                                                                                                                                                                                                                                                                                                             |
| 2 | State the overarching course goal(s) in performance terms.     | <p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• perform conversions among different distance types</li> <li>• Calculate differential leveling to determine elevation of points</li> <li>• Layout horizontal and vertical curves.</li> <li>• Set the grade stakes for and compute volumes of earthwork.</li> <li>• Operate Automatic Levels, Total Stations, and GPS devices to collect spatial measurements.</li> </ul> |

#### 2. Competencies and Measurements

|   | Competency                                                                                                 | Measurement    |
|---|------------------------------------------------------------------------------------------------------------|----------------|
| 1 | Apply fundamental surveying and geomatics concepts to real world applications                              | Homework Exams |
| 2 | Demonstrate knowledge and ability to use surveying equipment such as levels and total stations.            | Homework, Lab  |
| 3 | Used software tools such as Excel to perform mathematical operations required in geographically referenced | Homework, Lab  |

|   |                                                                                                 |                      |
|---|-------------------------------------------------------------------------------------------------|----------------------|
|   | data applications.                                                                              |                      |
| 4 | Analyze and interpret field survey data systems.                                                | Homework, lab, exams |
| 5 | Demonstrate a knowledge of GPS and GIS and their application to real world engineering problems | Homework, lab, exams |

### 3. Text and Resources

1. Give the full publication information of the textbook/s and other required resources and outside readings.

The required text for this course is Surveying 6th Edition, McCormac, Jack; Sarasua, Wayne; Davis, William. John Wiley & Sons, Inc., ISBN 978-0-470-49661-9, 2013

2. For **combined undergraduate/graduate** courses, make two lists:
  - a. full publication information; label **Undergraduate**.
  - b. full publication information; label **Graduate**. Indicate number of pages required.

## IV. Supporting Documentation

*Supporting documents must accompany proposal prior to preliminary approval by chair and dean.*

|   |                                                                                                                                                                                                                                                                                                                                         |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Library</b> — Submit new course application and syllabus to the Dean of the Library. Consult with the director and establish a deadline for completion of the library report. <b>Attach</b> the signed copy of the Library report.                                                                                                   |
| 2 | <b>Instructional Design</b> — The application and syllabus must be reviewed by the Adams Center. <b>Attach</b> a copy of the Adams Center Review Letter.                                                                                                                                                                                |
| 3 | <b>Content Overlap</b> — Include one document for each course you listed in Section I-I. <b>Attach</b> statement from instructor/dept chair of existing course justifying the new offering.                                                                                                                                             |
| 4 | <b>Departmental Resources</b> — List the resources that support the course and are available only through the department, if applicable. <b>Attach</b> the list of the holdings and the location/s.                                                                                                                                     |
| 5 | <b>Resources</b> — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). <b>Attach</b> a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.                   |
| 6 | <b>Expenses</b> — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). <b>Attach</b> a complete list of all items, the estimated cost of each and the source of the funds. |
| 7 | <b>Justification</b> — <b>Attach</b> all documents referred to in Section II-2                                                                                                                                                                                                                                                          |
| 8 | <b>Syllabus</b> — <b>Attach</b> the syllabus for the course based upon the anticipated first-semester offering.                                                                                                                                                                                                                         |
| 9 | Provide documentation for all additional attachments here                                                                                                                                                                                                                                                                               |

## V. Preliminary Approvals

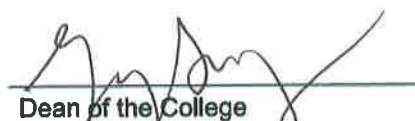
All supporting documentation has been assembled and attached to this application. I believe this course is ready to be presented to appropriate councils. We have a plan to fund this new course.

Course Number and Name ENGR 272

### Primary Department

  
Department Chair

10/30/18  
Date

  
Dean of the College

11/27/18  
Date

**Cross-listing Department** *Add more lines if multiple departments are cross-listing*

\_\_\_\_\_  
Department Chair

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean of the College

\_\_\_\_\_  
Date

**Cross-listing Department** *Add more lines if multiple departments are cross-listing*

\_\_\_\_\_  
Department Chair

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean of the College

\_\_\_\_\_  
Date

## VI. Actions *Place all actions on one page.*

Course ID: \_\_\_\_\_

Course Title: \_\_\_\_\_

### 1. College Academic Council: (for all courses)

Note: Insert additional lines for College Academic Council action for each college involved in cross-listed courses.

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
College Dean or Director Date \_\_\_\_\_

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
College Dean or Director Date \_\_\_\_\_

### 2. Graduate Council: (for graduate level courses)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
Dean of Graduate School Date \_\_\_\_\_

### 3. Teacher Education Council: (when applicable)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
TEC Chair Date \_\_\_\_\_

### 4. University General Education Council: (when applicable)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
Provost's designee Date \_\_\_\_\_

### 5. University Undergraduate Academic Council: (*undergraduate level courses*)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
Vice Provost Date \_\_\_\_\_

### 6. Academic Provost: (for all courses)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
Provost Date \_\_\_\_\_

### 7. President of the University: (for all courses)

Approved \_\_\_\_\_ Denied \_\_\_\_\_  
President Date \_\_\_\_\_

Attach notes, comments, or conditions from appropriate councils:

# Surveying and Geomatics

## ENGR 272, Section 01

### Abilene Christian University

### Fall 2019

**Class Meeting Times and Location**

This class meets Monday and Wednesday from 1:00-1:50 p.m. in Onstead Science Center B61 and Monday from 2:00-4:50 pm in Bennett 114.

**Prerequisites: MATH 185, Calculus I****Credit hours: 3.****Required Text**

Surveying 6th Edition, McCormac, Jack; Sarasua, Wayne; Davis, William. John Wiley & Sons, Inc., ISBN 978-0-470-49661-9, 2013

**Intended Audience**

This is an elective course for Engineering majors who are interested in Civil Engineering.

**Catalog Description**

Introduction to the use of modern surveying equipment, map projections, horizontal and vertical curves, earthwork and mapping for capturing data, data processing and presentation of field data.

**Contact Information**

Name: Dr. Timothy Kennedy, P.E. Assistant Professor of Engineering  
Office: Onstead Science Center 137D  
Phone: 325-674-2165  
Email: [timothy.kennedy@acu.edu](mailto:timothy.kennedy@acu.edu)  
Office hours: Daily 8-10 a.m. Additional office hours can be arranged as needed.

I have an open door policy; if my door is open you are welcome to come in. The times listed above are when I anticipate being in my office and will make every effort to be available. At times I have to be off campus or in meetings out of my office due to other departmental and campus responsibilities; in the event you need me and do not find me in my office please send me an email and we can set up a meeting as soon as possible.

**Teaching Philosophy**

Engineering and physics are well respected professions. The public places great trust in these professionals being honest, competent, and ethical. Many codes of ethics for these fields indicate that the commitment to protecting the health, safety, and welfare of the public is of paramount importance. These values are in harmony with Christian principles and ideals. Christian engineers should be honest (Matthew 5:37), work hard to ensure competency (Colossians 3:23), and put the public's interest ahead of his or her own (Luke 6:31). In light of these principles, this course will be taught such that you will gain an appreciation for the professional nature of engineering and physics. It will be taught so as to give you every opportunity to begin to develop competency in these fields. This will require reading assignments, homework, quizzes, tests, and

|                                                                                                                                                                                                                                                                                                               |                                     |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------|
| <b>Lab</b><br>The lab focuses on the field aspects of surveying. The intent of the lab portion of the course is to present the various methods of field measurements used by surveyors while presenting students with the experience of solving measurement problems in the field utilizing survey equipment. | <b>See Canvas for details</b>       | <b>40%</b> |
| <b>Regular Exams ( 2@10%)</b><br>Two regular exams will be given during the semester. All exams are comprehensive and will emphasize problem solving both qualitatively and quantitatively.<br><br>Exams will likely be closed book and no unauthorized help may be given or received on the exams.           | <b>See Schedule</b>                 | <b>20%</b> |
| <b>Final Exam</b><br>The final exam will be comprehensive in nature including any new material covered after the third exam. <u>Exams may not be taken late without preapproval.</u>                                                                                                                          | <b>See Finals Schedule on MyACU</b> | <b>20%</b> |

#### **Calculation of Final Course Grade\***

The grading scale will be as follows:

|                         |   |
|-------------------------|---|
| 90% and above . . . . . | A |
| 80% - 89% . . . . .     | B |
| 70% - 79% . . . . .     | C |
| 60% - 69% . . . . .     | D |
| 59% and below . . . . . | F |

\*Instructor reserves the right to decrease the lower bound of the grade cut-offs.

### **Course Policies**

#### **Communication**

ACU email and Canvas are the two official forms of class communication. General announcements and supplementary course materials will be posted on Canvas, and Canvas will also be used to report grades. Announcements that are time sensitive will be sent via ACU email.

#### **Classroom rules**

Cell Phones should be placed on 'Silent' mode while in class. In the case of an emergency you may answer your phone and quietly leave the room and return when you have finished your call. It is not in your best interest to text while in class.

Computers, laptops, tablets, etc. are not permitted to be used in the classroom unless they are being utilized as part of an in-class activity.

#### **Removal from course**

The instructor reserves the right to remove from the course any student whose behavior is disruptive to the learning environment for students or faculty.

**ADA Compliance Statement**

*"Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The Alpha Scholars Program facilitates disability accommodations in cooperation with instructors. In order to receive accommodations, you must be registered with Alpha Scholars Program, and you must complete a specific request for each class in which you need accommodations. If you have a documented disability and wish to discuss academic accommodations, please call our office directly at 325-674-2667."*

**The mission of ACU**

To educate students for Christian service and leadership throughout the world.

**The mission of the College of Arts and Sciences**

To educate students for worldwide Christian service and leadership through programs of study and other learning experiences that blend a liberal arts education with professional and career education.

**The mission of the Engineering and Physics Department**

The ACU engineering program strongly supports the university's mission of educating students for Christian service and leadership throughout the world. In support of this mission, ACU engineering graduates will attain:

- A deep and broad understanding of engineering principles and practices as evidenced by professional employment, continued professional development, and graduate study in engineering or other professional fields.
- An extensive knowledge of the innovative design processes unique to engineering professionals as demonstrated by using critical thinking skills to contribute to the scientific and technical literature, patents and intellectual property, professional societies, and creative designs.
- A thorough understanding of Christian service and leadership as shown in their commitments to professionalism, ethics, and service and leadership within the engineering profession, the church, and society.

|    |                                            |            |                     |
|----|--------------------------------------------|------------|---------------------|
| 12 | Horiz. And Vert. Curves                    | Ch 22 & 23 | Lab 10 GIS Practice |
|    | Intro. to GPS                              | Ch 15      |                     |
| 13 | Advanced GPS                               | Ch 16      | Lab 11 GIS Practice |
|    | Introduction to GIS                        | Ch 17      |                     |
| 14 | Advanced GIS & Land and Property Surveying | Ch 18 & 21 |                     |
|    | Land and Property Surveying                | Ch 21      |                     |
| 15 | Final Exam                                 |            |                     |

October 22, 2018

Dr. Timothy Kennedy  
OSC137D  
Timothy.kennedy@acu.edu  
325-674-2165

Re: Review of ENGR272

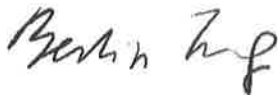
Dear Dr. Kennedy,

Thank you for submitting ENGR272 Surveying and Geomatics. I have reviewed it based on the ACU Syllabus Guidelines and find the syllabus meeting all the requirements. However, there might be some small minor format issues you might want to fix in your final version:

1. There are some blank pages towards the end of the document you might want to delete.
2. Add a line break before "ADA compliance Statement."
3. Course schedule uses a small font that is difficult to read. You might want to make it consistent with the other sections. If you want to show all the content in the table on one page, perhaps you can use single space for the content of the table.

These are changes you can make yourself. There is no need for further review at the Adams Center. However, please note that this letter is not meant to be a final approval in the course application process. Instead it is intended as a reference, which will be read by your department chair and members of the council, who may also have questions or comments of their own.

If you have any questions, please feel free to let me know. Please also let me know if we can be of any help in the design and facilitation of this course.



Director of Instructional Design  
Adams Center

# ABILENE CHRISTIAN UNIVERSITY

## LIBRARY

---

### M E M O R A N D U M

---

**DATE:** 20:20

**TO:** Dr. Tim Kennedy

**FROM:** Mark McCallon, Associate Dean for Library Services

**RE:** New Course Proposal, ENGR 272 – Surveying and Geomatics

---

The library has examined the course application and syllabus and is able to support the proposed course. Please contact Erica Pye ([exp10a@acu.edu](mailto:exp10a@acu.edu)) , Librarian Liaison to the Department of Engineering and Physics, if additional library resources are needed for the course. Thank you for letting us review the course proposal.



# Request to Add or Change Course Fees

Course fees or changes to existing course fees must be approved and published in the ACU Catalog for the following year in order for them to be assessed on a student's account. Course fees which are not processed by February 1<sup>st</sup> will not be included in the fall catalog.

Request Date 10/31/2018

Amount of Fee \$70

Department Making Request Engineering and Physics

Contact Person CAS Dean

Semester and year for fee to begin : Fall 2019

Check the appropriate fee category below:

FOAP: 202812 20580 8105 10 \$63

☒ Fee is the same for every section and every student

202034 20500 8105 10 \$7

☐ Fee applies to certain sections only

If fee applies to certain sections only, please specify below if it is a one-time fee for a single section or a repeating fee that will be applied on a regular schedule (e.g., a fee charged each time the course is taken in a summer session but not in the fall or spring).

**This request applies to the following course (one per form):**

Course Number / Section

Course Title

ENGR 272

Surveying and Geomatics

**State the justification for your request below. You will be notified of final approval or denial.**

Support of Laboratory experience

**The following signatures must be obtained before any request is approved.**

Approved

Declined

Department Chair

Date

College Dean

Date

Provost

Date

Vice President for Finance

Date

**If approved by all above, route to:**

Controller

FOAP

Date Completed

Finance

Fee Code for use on course

Date Completed

Registrar's Office

Date Completed

3/20/2017 KMW